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AMERICAN NURSERYMAN

Chief Exponent of the American Nursery Trade

Vol. LX No. 12

DECEMBER 15, 1934

15c per copy

IN THIS ISSUE

Hardy Chrysanthemums

Progress in Breeding and Varieties Told by Alex Cumming, Jr.

State Association Meetings

Programs for Numerous Coming Conventions

New Ornamental Deciduous Trees

Varieties for Specimen and Shade Described by L. C. Chadwick

Herbaceous Perennials

C. W. Wood Comments on Less Common Varieties

The Current Season

W. N. Craig's Notes from New England

Answers to Inquiries

AMERICAN NURSERYMAN PUBLISHING CO.

508 S. DEARBORN ST.,

CHICAGO, ILL.

AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

F. R. KILNER, Editor
Published Semi-monthly by
**AMERICAN NURSERYMAN
PUBLISHING CO.**
508 S. Dearborn Street,
Chicago, Ill.

Telephone: Wabash 8194.
New York Office—67 West 44th Street
N. L. Huebsch Tel., Murray Hill 2-4871

Entered as second-class matter December 14, 1933, at the post-office at Chicago, Ill., under the act of March 3, 1879.

SUBSCRIPTION PRICE, \$2.00 per year; outside the United States, \$3.00. Single copies, 15 cents.

ADVERTISING RATES on application. Forms close on 10th of month for mid-month issue and on 25th of previous month for first-of-month issue. If proofs are wanted, copy should be on hand one week earlier.

EDITORIAL communications on subjects connected with nurseries, arboriculture or other phases of commercial horticulture are welcomed by the editor. Also articles on the subjects and papers prepared for conventions of nursery associations.

HOUSING DRIVE GAINS.

The drive to extend the activities of the federal housing administration continues to move forward. It is asserted that \$144,017,533 worth of repairs and modernization was created from the beginning of the drive to December 7, 1934, by the better housing program. This amount, much of which constitutes cash work, represents a little over six times the amount of the loans reported for the same period, amounting to \$23,967,345.

There are now 11,591 financial organizations entitled to make loans under the modernization credit plan. December 7 there were 4,403 communities either organized or in the process of organization. Many public utilities are boosting the campaign to improve homes and property through literature sent out with monthly bills.

Nurserymen may secure orders by following the example set by other lines of business and making a direct effort to contact home owners to explain the advantages that lie in property improvement through increased planting, as loans for such work are available.

The St. Louis chapter of the American Institute of Architects has established a clinic to give free advice to property owners planning construction

under the better housing program of the federal housing administration. For services required of architects outside the clinic, a schedule of minimum charges is provided for consultants. Firms interested in promoting landscape work in urban centers might well consider a similar plan.

CITY SURVEYS SHADE TREES.

The city of New York is making a survey of its more than one million street trees in the five boroughs. The city not only plans to make a survey of its trees, but to follow this up by well planned operations, designed first to put the trees in good condition and, second, to maintain them satisfactorily. It has been the practice in the past to depend to a considerable extent at least upon complaints. Practical considerations amply justify systematic attention to trees on individual streets or in certain areas. It is not only more economical of effort, but decidedly more satisfactory. Work of this character further reduces the probabilities of calls for attention to individual trees and thus brings about an additional economy.

Residents of communities are fast learning the need of adequate care for shade trees, and the sooner this is generally appreciated and suitable provisions made for such operations, the better the outcome for all concerned. The need for such work is more urgent in the case of the larger cities, and yet it is a practice which can be adopted to advantage in a great proportion of the smaller communities.

LANDSCAPE RACETRACKS.

Beautifying of racetracks has become a hobby with promoters in the last ten years. Each season the playgrounds of the thoroughbreds become more pleasing to spectators. Flowers, trees and hedges make up the major part of the scenery at most of the tracks in America. Of course, those in southern climates can be made more attractive than the ovals in the north.

Chicago racetrack promoters were the first to start the beautifying contest. Arlington park was the leader in Illi-

nois, and then other turf officials took up the idea in presenting the tracks with a "new summer dress" each season. There are many racetracks in the United States which have been made beautiful by landscape plantings.

For natural surroundings, Saratoga Springs track, located near the foothills of the Adirondack mountains, in New York state, is considered the prize oval in America.

In the south Hialeah park, at Miami, Fla., was recently unanimously voted the prize racetrack. Hialeah park is a "made" track. All of the palm trees, flowers and hedges were transplanted. Before the tract became a haven for race horses, Hialeah park was a flat, barren waste.

Of course, a fortune had to be spent in order to make Hialeah park what it is. Joseph E. Widener, chairman of the board of directors of the Miami Jockey Club, made it possible for Hialeah to be acclaimed "America's most picturesque race course."

At New Orleans, the fairgrounds have stately live oak trees in the center field, adding to the general attractiveness of America's pioneer winter racetrack.

JEWELL NEWS FLASH.

The average wholesale price list is a matter for business reference rather than interesting reading, but R. B. Underwood, as the editor of the Jewell News Flash, gets a good many nurserymen interested in the offerings of the Jewell Nursery Co., Lake City, Minn. Not only are the offerings of stock accompanied by comments on the varieties offered, but Mr. Underwood's general observations on the nursery business are readable and informative. This is the expressed opinion of so many nurserymen who have been reading Mr. Underwood's comments for years that whatever is said in commendation here is known to be well deserved, regardless of the fact that Jewell News Flash has several times urged the value of The American Nurseryman as a place to invest \$2 for a year's subscription. Several nurserymen have so far relied upon Mr. Underwood's judgment as to send in their money, for which we should express our thanks.

INDEX TO ADVERTISEMENTS IN THIS ISSUE

Albert, Theo.	Rare Nursery Stock	13	Lovett, Lester C.	Privet and Berberis	14
American Bulb Co.	Bulbs, Seeds, Etc.	13	Mell-Norr	Marvel Dust Spray	16
Bobbink & Atkins	Evergreens	13	Milton Nursery Co.	Trees	14
Burr & Co., C. R.	General Nursery Stock	13	National Band & Tag Co.	Plant Labels	15
Canterbury Nurseries	Boxwood	14	National Nurserymen's Credit Bureau, Inc.		14
Chase Bag Co.	Saxolin	16	Peterson & Dering, Inc.	Rose Stocks	15
Chase Co., Benjamin	Nursery Labels	11	Princeton Nurseries	General Nursery Stock	13
Evergreen Nursery Co.	Evergreens	13	Southern Nursery & Landscape Co.	Fruit Trees	13
Harbst Bros.	Tree and Shrub Seeds	14	Storrs & Harrison Co.	General Nursery Stock	11
Hill Nursery Co., D.	Evergreen Specialists	13	S. W. Supply Co.	Plant Markers	15
Hogansville Nurseries	Peach Pits	13	Tobacco By-Products & Chemical Corp.	Insecticides	16
Howard-Hickory Co.	Holly, Plants	16	Westhauser Nurseries	Strawberry Plants	13
Howard Rose Co.	Roses	14	Westminster Nursery	General Nursery Stock	15
Jackson & Perkins Co.	Novelty Roses	13	White Chemical Co., Wilbur	Cold Wax	15
Leonard & Son, A. M.	Nursery Tools	15	Wilson & Co., C. E.	Lining Out Stock	14
Linville Nurseries	General Nursery Stock	13			

AMERICAN NURSERYMAN

[Registered U. S. Patent Office]

The Chief Exponent of the American Nursery Trade

*The Nurseryman's Forte:
To Make America More Beautiful and Fruitful*

Vol. LX

DECEMBER 15, 1934

No. 12

Hardy Chrysanthemums

**Progress in Breeding and Recommended Varieties Told by Expert
Raiser, Alex Cumming, Jr., of Bristol Nurseries, Bristol, Conn.**

In discussing chrysanthemum varieties suitable for the garden, it is futile to recommend an extensive assortment of kinds purporting to be the best. Varieties which are satisfactory in the more temperate regions of the north Atlantic states, including Maryland, New Jersey and sections of Pennsylvania, would not be desirable for New England and some of the more central states. Other factors, such as proximity to large bodies of water or altitude, make sharp differences that also must be taken into consideration, so that a knowledge of local conditions is highly important in making a selection of varieties.

Right now there is a tremendous interest in the outdoor chrysanthemum. The enthusiast today no longer loses interest in the garden with the coming of frost. Color and cut flower material are still wanted. The one answer is better garden chrysanthemums. The chrysanthemum cannot be regarded simply as a side line. It is a specialty and an important specialty, because the amateur gardener is generally a well informed individual, with a pretty clear idea of what it is all about, and the best is none too good. Make it your business to know exactly what is best for your locality and you are on your way to establishing a reputation. The chrysanthemum is at its best during a season that is otherwise dull. It is a plant that can be dug in full bloom with a ball of soil, and the customer will buy freely at that time. Here is an opportunity to extend the selling season.

Hardiness.

What constitutes a good garden chrysanthemum? First, hardiness, and second, timely season of blooming. True, there are some enthusiasts who realize that the chrysanthemum is a comparatively inexpensive plant and easily replaced and are perfectly satisfied in the assurance of one good season of display. It is so easy, however, to make a selection of desirable kinds that will survive average winter conditions that this tolerance in the matter of hardiness is no longer necessary. Keep in mind that hardiness is not just the ability to resist cold.

Frequent thawing, with the consequent excess of moisture settling around the crown of the plant, is really

more injurious; hence the necessity of a somewhat elevated and well drained location where surface water will not settle, also some slight protection, using material that will not mat down and smother the plant. Evergreen branches, to which leaves are added gradually, will prove satisfactory. It is just as important that this covering should not be removed too early in spring, and gradually rather than all at once. Too heavy covering is more injurious than no covering.

Season of Bloom.

Here arises the question, "When do we want chrysanthemums in the garden?" There are varieties that will flower in mid-July, but for these I have no great enthusiasm. First, because we have an abundance of more seasonable material then, and second, because these extremely early kinds are usually subject to insect attack in the early bud stage, and the flowers, in consequence, are malformed and poor in color.

The cool nights and brisk atmosphere of autumn supply the conditions the chrysanthemum loves. Light frosts, severe enough to destroy annuals, may occur between early September and mid-October, depending upon the latitude. That is the season when the chrysanthemum is really at its best. The desirable variety, then, should be sufficiently early from this time on that a fairly long flowering period is assured before the severe killing frosts occur. It should be sufficiently hardy to live through the average winter with slight protection.

Old Favorites.

There are some ironclad old favorites, including an occasional greenhouse sort escaped to the garden, that will survive even a severe winter. These are limited in color range, however, and usually so late in flowering that a covering of some sort is necessary to develop perfect flowers.

Regardless of the great improvement in the chrysanthemum, it would be a calamity if these old favorites were lost to cultivation. What a splendid contribution to horticulture it would be if some public institution or park department would undertake the fostering of a collection of all garden chrysanthemums, new and old! Outside of

maintenance, this would not be a too difficult undertaking. The interest of the true lover of plants goes far beyond his own garden. I know the chrysanthemum fan well enough to venture the assurance that an undertaking of this kind would be heartily supported and hundreds of varieties contributed, and varieties now in danger of being lost would be resurrected and saved for posterity.

Recent Improvements.

Much work has been done by chrysanthemum breeders toward the improvement of the garden type, particular effort being made to secure added hardiness. Headway was necessarily slow as long as this work was confined to the so-called garden varieties, now generally classed as Chrysanthemum hortorum. The introduction of the species Chrysanthemum coreanum, a native of the colder regions of Korea and found well up into Siberia, into hybridization work with good hortorum parents imparted much of the hardiness of coreanum to the progeny. Other valuable traits also developed, such as a more lusty and vigorous plant type of good garden proportions. New tints or color blends appeared, adding daintiness and charm to the entire group. While coreanum has proved a most pliable parent, it should not be assumed that the development of this group was the work of a season or two. In all breeding work where a well fixed species is used as a parent, the early generations are not apt to be desirable in themselves, but should be regarded simply as stepping-stones toward a finished product. So it was with the early generations of Korean hybrids.

The first Korean hybrid of record was offered in 1933, with the introduction of the variety Mercury, a bronzy, coppery red. In 1934 five additional varieties were introduced: Apollo, a sparkling combination of red, gold and salmon; Ceres, old gold, chamois yellow and coppery bronze; Daphne, true Daphne pink; Diana, Chatenay rose-pink, mingled with lilac rose and salmon, and Mars, deep amaranth red.

All are single or semidouble, and although dainty in appearance, they have splendid keeping qualities and are particularly valuable for cut flower purposes. With a wide distribution in their first season, it can now be said that they

have unquestionably captured the fancy of the chrysanthemum lover, and I think it would be no exaggeration to state that they have also added somewhat of a thrill to the fall garden. With slight protection, all of the varieties mentioned passed safely through this last severe winter, where the hortorum varieties were almost a total loss. This added hardness should prove just one of their several valuable traits.

The further development of this particular group will include not only new colors, but desirable examples of the double, or decorative type, and a range of pompon varieties of somewhat different growing habit, as well as additional color combinations from those now in use.

Recommended Varieties.

As pointed out previously, a knowledge of local conditions is necessary to an intelligent selection of varieties. The following sorts, however, which are comparatively new and not related to the Korean hybrids, have proved quite satisfactory in a general way and are worth adding to any up-to-date list. Extremes in seasons are avoided in making this selection.

Two varieties I consider of special interest. The first is Amelia, a dwarf compact variety, apparently identical with Pink Cushion and Azaleamum. It produces a profusion of flowers varying from light to deep pink, flowering in some sections from late August on. Its particular value is for massing, edging or for grouping in the rock garden. Its unusually compact habit suggests it as a possible forerunner of a dwarf type that would be highly desirable.

Second is Early Bronze pompon, a recent addition to the outdoor pompoms and one of the first to bloom. It is a delightful shade of bronze that does not discolor badly with age, comparatively dwarf in growth, healthy, and not subject to insect troubles.

Other notable varieties are:

Red Flare, a vivid red, is easily the most showy pompon in the garden section and a healthy grower.

Muldoon, a semipompon type, which produces quantities of amaranth red flowers, is a distinct color.

Granny Scovill, a large bronze flower of the full decorative, or aster type, has proved immensely popular. It is about the largest garden variety available and worth some additional attention as to winter covering, which it needs.

Cavalier, a dazzling vermilion red, single variety, is remarkably free and showy in the garden, also valuable as an early greenhouse sort.

Louise Schling, single with two to three rows of petals, is one of the first to bloom, opening about September 30. Without question, it is one of the most showy and free-flowering of the garden varieties. It makes an excellent plant, being covered with flowers from top to bottom, and is equally good as an early greenhouse variety. The color is a distinct bronzy crimson.

The Torch, single, is a bright orange scarlet with golden reverse, a grand garden color.

Amber Star, buff yellow with scarlet suffusion, is also outstanding.

Indian Maid, single bright orange with terra cotta shading, is distinct and valuable.

Jean Treadway, a decorative, has large full flowers. The color is distinct, a soft sparkling pink with a conspicu-

ous deeper center. It is free-flowering and altogether popular.

The foregoing sorts are comparatively new. Many good older varieties are not mentioned here. Two older sorts, however, should be included in every collection, Ethel, because it is the best red bronze pompon in late October and is unusually frost-resistant in the flowering stage, and Mrs. J. Willis Martin, a large decorative bloom, of a peculiar crushed strawberry color that is entirely distinct from all others. When well grown, this variety is altogether outstanding.

Culture.

While space does not permit a discussion of cultural details, I would point out that healthy, well branched young plants from a 2½ or 3-inch pot have proved generally more satisfactory from the purchaser's standpoint than the heavier field-grown clumps.

To look forward, it goes without saying that there is no apparent limit in the further improvement of the hardy type. The hybrid Korean group in itself offers endless further possibilities, and the hardy species *Chrysanthemum arcticum* promises the development of a sturdy hybrid type that will differ from the Korean hybrids in several respects. There are other species closely related to the chrysanthemum that offer many possibilities. Most of all, we need an earlier-flowering strain that will be resistant to hot weather insects and have a much greater degree of hardness than most of the present early-flowering kinds. It is true that we who are favored by climatic conditions do not require this early strain, but it would be of immense value in extending the zones to many sections where chrysanthemums cannot be grown successfully today.

"LITTLE HOUSE" PLANTING.

Described by Lovett in Broadcast.

Speaking recently over the radio from the garage-studio of America's "Little House," the demonstration home being constructed at a corner of Park Avenue and Thirty-ninth street, New York, Lester C. Lovett, president of the American Association of Nurserymen, discussed the planting of the "Little House" garden with J. W. Johnston, well known horticulturist and general chairman of the garden committee, and Frank Schmidt, who represented the nurserymen in assembling the trees and plants for planting as scheduled during the last few months. Among them, the three men answered many of the questions which are constantly asked by garden lovers who visit the demonstration home with a particular eye to its landscaping and planting.

Mr. Lovett spoke of one of the initial problems in connection with the "Little House" garden—the fact that the lot on which the work is being done was composed of generous quantities of bricks and sections of brown stone fronts that had previously adorned the old houses in this residential section of Murray Hill.

A. A. N. Gave Plants.

Having solved the soil problem with the help of Robert Moses and the park department and with the garden design approved, the American Association of

AMERICAN NURSERYMAN

Nurserymen proceeded to obtain from its members the necessary plants.

"The planting of this garden," said Mr. Lovett, "was entirely different from the job usually encountered on a property of similar size, for whereas the average garden maker would rightfully begin with standard-size plants, the work here had to show the finished effect—it had to show how a garden would look after it had been planted for six or eight years.

"Several angles were kept in mind in planting the garden: First, its charm, second its 'livableness' and third—and perhaps most important from the nurseryman's point of view—its lesson in plant selection.

"Here is a garden wherein the better, but not particularly expensive class of plants, has been used. Some of the commoner varieties also have their proper place, yet no one group of plants dominates the picture. . . . No one should draw his final conclusions of this garden until late next spring, when it will be in its glory of foliage and bloom. I hope that at that time every member of the American Association of Nurserymen and all who are interested in gardens will find it possible to pay at least one visit to this lovely property."

Asked as to whether special plants had been placed in the "Little House" garden because of the harmful fumes from the exhausts of thousands of automobiles each hour, Mr. Lovett replied that the planting had been the same as would have been made to meet suburban conditions, but that the association "welcomed the test" to find out just what material would live under city gardening conditions. Accurate records are being kept for the guidance of other city gardeners who may wish—a year from now—to consult them.

Mr. Lovett concluded his talk with the explanation that the "Little House" garden is intended to represent the result any home maker might attain through the expenditure of about \$500 for plant materials over a period of years.

UNUSUAL ROOT DEVELOPMENT.

In digging the rose fields this fall it was found that the plants had made an unusually great root development during the past season, according to the Jackson & Perkins Co. "Rose Letter," a 4-page circular published at intervals and edited by J. H. Nicolas, which gives results of tests in the company's rose gardens and a digest of the rose news of America and foreign countries in which the Jackson & Perkins Co. has connections.

This root development is attributed to the drought conditions which forced the plants to extend their roots farther than in ordinary seasons to secure necessary moisture. The same was noted in the case of other plants. This would indicate that plants grown in dry years will transplant better than most because of their strong root systems; when rains come they quickly make up for lost time.

IOWA OFFICERS RE-ELECTED.

At the meeting of the Iowa Nurserymen's Association at Ames on November 16, reported in The American Nurseryman for December 1, all the officers were reelected for the following year. They are: President, A. J. Bruce; vice-president, H. E. Russell, and secretary, C. C. Smith.

State Association Meetings

ILLINOIS MEETING PROGRAM.

A strong and interesting program has been prepared for the nineteenth annual convention of the Illinois State Nurserymen's Association, to be held at the Hotel Sherman, Chicago, January 16 and 17, according to reports from Miles W. Bryant, secretary. The first day will be given over entirely to a discussion of retail merchandising of nursery stock, special topics being patented plants and display grounds for local retail selling. A well known speaker from outside the industry will also discuss business trends and the economic outlook for the coming year. Dr. L. R. Tehon, botanist of the State Natural History Survey, will report on his trip east this autumn to study the Dutch elm disease.

On the second day of the meeting Phelps Vogelsang, landscape engineer of the division of highways of the Illinois department of public works and buildings, will discuss plans made for landscape development along Illinois highways. Neil H. Jacoby, director of research of the state department of finance, will discuss the Illinois retailers' occupational tax as it applies to retail nursery sales within the state. There will also be several other interesting talks.

The board of directors of the Illinois State Nurserymen's Association has reversed its decision not to hold a trade exhibit at the nineteenth annual convention, at the Hotel Sherman, Chicago, January 16 and 17, due to an unexpectedly strong demand from many firms for a chance to exhibit. Arrangements have now been made for show space, which will be available to all. Further information may be obtained from Ernest Kruse, Wheeling, Ill., chairman of the committee in charge.

WILL HOLD JOINT MEETING.

The Michigan Nurserymen's Association and the Indiana Nurserymen's Association will hold a joint meeting at South Bend, Ind., January 18 and 19, immediately following the meeting of the Illinois State Nurserymen's Association at Chicago. An excellent program has been arranged, which will be announced later, and a cordial invitation has been extended to nurserymen in Michigan, Ohio, Illinois, Minnesota, Pennsylvania and New York to attend the meeting. South Bend is only a few hours from Chicago by car or electric line, which will make it convenient for those attending the Illinois meeting to go on to this one.

KANSAS CITY PROGRAM.

The Western Association of Nurserymen will hold its forty-fifth annual meeting at the Hotel President, Kansas City, Mo., January 22 to 24. In connection, a meeting of retail nurserymen will be held at 2 p. m. on January 22.

The program, which begins Wednesday, will include an address by President A. J. Bruce, the report of Secretary-treasurer George W. Holsinger and business routine in the morning. In the afternoon are scheduled a stereopticon lecture on rock gardens and pools, an

address by Dr. Raymond A. Schwegler, dean of the school of education at the University of Kansas, and a talk on "Stimulating Effects of Federal and State Plantings" by a representative of the United States forestry service.

At the Thursday morning session will be given addresses, "Building Business via Modern Methods," by C. C. Smith, Charles City, Ia.; "The Western Association's Future," by A. F. Lake, Shenandoah, Ia., and "The Status of A. A. N.'s Marketing Agreement," by Henry B. Chase, Chase, Ala. Reports of committees and the election of officers will close the meeting.

MINNESOTA MEETING.

The ninth annual meeting of the Minnesota State Nurserymen's Association will be held December 17 and 18 at the Lowry hotel, St. Paul, Minn.

The first session will open at 10 a. m. Monday, with D. M. Mitchell, Owatonna, giving the president's message. The reports of the secretary, W. T. Cowperthwaite, St. Paul, and the treasurer, H. S. Reid, St. Paul, will follow. The principal talk of the morning will be made by R. D. Underwood, Lake City, on "The Trend of Coöperative Ideas and Their Practical Accomplishment by Various Nursery Organizations."

At the afternoon session, addresses will be made by Dr. Henry Schmitz, chief of the division of forestry at the University of Minnesota, on "The National Government's Tree-Shelter Belt;" Waldo Kidder, former crop and soils specialist at the University of Montana and the Colorado College of Agriculture, on "Plant Foods and Fertilizers for Nursery and Garden Uses;" W. H. Alderman, chief of the division of horticulture at the University of Minnesota, on "Varieties of Interest to Nurserymen," and Julian Underwood, Lake City, on "Notes on Reorganization from the Convention of the American Association of Nurserymen." E. C. Hilborn, Valley City, N. D., and W. G. McKay will comment on the first and last.

At the evening meeting the Twin City Association of Nurserymen will be host. A colored movie film of the horticultural gardens at A Century of Progress will be shown.

Tuesday morning, addresses will be made by Franc Daniels, Long Lake, on "Winter Kill and Protective Covering;" Mrs. E. G. Quamme, editor of the Minnesota Parent-Teacher, on "Children and Gardening," and A. G. Ruggles, Minnesota state entomologist, on "Nursery Inspection Activities and Some New Problems Facing the Nurserymen." T. L. Aamondt, assistant state entomologist, will comment.

The convention luncheon will be held Tuesday at 12:15 in the Spanish room, Gerhard J. Bundlie, former mayor of St. Paul, being the guest speaker.

Tuesday afternoon Bjorn Loss, Lake City, will speak on "Better and Newer Ornamentals," and John K. Andrews, Faribault, on "The Available Supply of Finished Nursery Stock for 1935 Needs." Remarks by L. F. Wesely, committee reports, business and the election of officers will complete the meeting.

COMING CONVENTIONS.

No less than twenty-four state or sectional nurserymen's conventions are on the calendar during the next sixty days, though the exact dates for all have not been set.

In addition to those separately mentioned on this page, the following meetings are to be held on the dates and at the places listed:

The Arkansas Nurserymen's Association will hold its annual meeting at Fayetteville, December 19.

The annual convention of the Ohio Nurserymen's Association will be held at Columbus, O., January 10 and 11. The annual short course for nurserymen at Ohio State University will be held January 22 to 24.

January 22 to 24 are the dates of the annual convention of the Western Association of Nurserymen, which will be held at Kansas City, Mo. The annual convention of the Missouri State Nurserymen's Association will be held in conjunction with that of the regional organization.

The Rhode Island Nurserymen's Association will hold its annual convention at Providence, R. I., February 6.

January 8, the Massachusetts State Nurserymen's Association convenes at the Hotel Statler, Boston, Mass.

January 23 and 24, the New England Nurserymen's Association will meet in the Hotel Statler, Boston, Mass.

LONG ISLAND MEETING.

A scheduled quarterly meeting of the Long Island Nurserymen's Association was held December 10, at Farmingdale. George Bahr, Nassau county chairman of the federal housing administration, and James H. MacLean, special representative, spoke on the provisions and purposes of the housing act.

The Allied Retail Nurserymen's Association, the Capital District Nurserymen's Association and the Westchester County Nurserymen's Association were represented by delegates. P. J. Van Melle, secretary of the Allied Retail Nurserymen's Association, urged the modernization of the state inspection laws and also offered a plan whereby a central committee could be set up with representatives from each nursery group in New York state. The Long Island Nurserymen's Association agreed to co-operate in this plan, and a committee was appointed to meet with others and suggest ways and means of making the inspection of nursery stock effective.

It was voted to take an active part in the spring flower show sponsored by the Long Island Horticultural Society.

The annual meeting of the Long Island Nurserymen's Association will be held sometime in January at the Van Courtland House in Bay Shore. Details will be announced later.

PORTLAND CLUB INVITES.

The Portland Nursery Club, Inc., meets the second Wednesday of each month, at 6:30 p. m. The club welcomes nurserymen from every part of the country, states J. E. French, secretary, 80 N. E. Irving street, Portland, Ore.

BROAD-LEAVED EVERGREENS.

Specialists Give Culture.

To have satisfaction from azaleas, kalmias and rhododendrons, those who plant them may well consider the suggestions often to be found in the catalogues of the growers who specialize in these subjects. In a recent trade list of the Linville Nurseries, Linville, N. C., appear comprehensive data, which are doubtless of interest to many. The recommendations follow:

To get the best results with azaleas, kalmias and rhododendrons, the soil must be acid and well drained. An excellent mixture consists of two parts sandy loam, one part leaf mold, preferably from hardwood growth, avoiding use of leaf mold from maple trees; one part humus, and one part old dairy manure at least 1 year old.

Fall Planting.

Planting is best done in the fall, as soon as the wood is matured, and can be continued until a month before the ground freezes. The spring planting can start as soon as the frost is out of the ground and continue until growth starts. Holes of ample size should be dug and the recommended soil mixture filled in around the plants. Set the plants in the holes to the same depth they stood in their original positions. The soil should be firmed slightly so that there will be no air pockets. Water thoroughly, adding more soil after the water settles. Then level the ground.

Mulch to a depth of two to four inches with old hardwood sawdust, rotted leaves or leaf mold. Replenish mulching from time to time as needed. As these plants have only surface roots, they should not be cultivated with a hoe. Keep grass and weeds pulled out and never allow the plants to suffer for water. To insure yearly blooms, break off the seed pods as they form immediately after blooming.

Light Fertilizing.

An annual application, just before growth starts, of well rotted old dairy manure or cottonseed meal is the advisable fertilization. This should be scratched in lightly so as not to destroy the surface roots. Water thoroughly after applying the fertilizer and replace the mulch.

The lace bugs and red spiders which attack these plants can be eradicated by spraying with an oil mixture to which has been added nicotine. Spray as soon as the insects hatch, usually in April or May, and repeat at intervals should there be another infestation.

Leaf blister or other fungi can be eradicated by spraying with Bordeaux mixture (4-5-50). Always apply sprays to all parts of the stems and foliage, using plenty of force to form a fine mist.

Azaleas.

Additional notes concerning azaleas in a descriptive catalogue of T. Kiyono, Crichton, Ala., supply the information that partial shade is desirable in planting, but dense shade should be avoided. A lath house, it is said, is well suited for growing these plants at a nursery. Following the statement that azaleas should be fertilized sparingly appears a recommendation for a light application of cottonseed meal about

three times a year. Plants that have a quantity of large sappy growth produce far fewer flowers and are much more likely to be killed by freezing weather than slower-growing plants of the same variety, it is remarked.

FUNDS TO FIGHT ELM DISEASE.

Federal allotment last week of a P. W. A. fund of \$527,000 to combat the Dutch elm disease was followed by a meeting, December 11, of representatives from Connecticut, New York and New Jersey at White Plains, N. Y., to map out concerted action during the winter. The larger part of the \$527,000 will be spent in New Jersey and New York where conditions are most serious, explained W. O. Filley, forester of the Connecticut agricultural experiment station, at New Haven, and chairman of the state committee on Dutch elm disease. The fund will also provide, however, for immediate removal of all dead and dying elms in the infected area of Connecticut.

Destruction of trees which cannot be restored to health is necessary, because unhealthy trees serve as breeding places and winter quarters of the insect carriers of Dutch elm disease. In Connecticut, the federal allotment takes care of the infected area only, which lies chiefly within Fairfield county. As a result of the survey of elms in other parts of the state made by the Connecticut agricultural experiment station, garden clubs in several places are taking steps to look after the elms in their communities, many of which were found to be in poor or bad condition. As soon as trees leaf out next spring, the experiment station will undertake another more intensive survey of Connecticut's elms. State-wide sanitation measures should follow.

The Washington conference on Dutch elm disease decided to continue the work and quarantine measures to control the gypsy moth and white pine blister rust, Mr. Filley announced.

BULLETINS RECEIVED.

"Fertilizer Experiments with Pecans," bulletin No. 270 of the agricultural experiment station of the University of Florida, Gainesville, Fla., by G. H. Blackmon and R. W. Ruprecht, is a comprehensive 48-page bulletin giving in detail results of treating different varieties of pecans, growing on different types of soil in Florida, with varying amounts and types of fertilizers. It takes into account the normal variation due to types of soils and their effect on proper time for applying fertilizers. This should be of value to pecan growers in the southeast, giving data on the most desirable varieties for this section as well as their response to treatment.

"Effect of Frequent Cutting and Nitrate Fertilization on the Growth Behavior and Relative Composition of Pasture Grasses," bulletin No. 269 of the agricultural experiment station of the University of Florida, Gainesville, Fla., by W. A. Leukel, J. P. Camp and J. M. Coleman, is a technical 48-page bulletin giving the results of experiments with four pasture grasses under different cutting and fertilizer treatments. Soil-forming characteristics and food quality were analyzed.

"The Cultivation of the Highbush Blueberry," special bulletin No. 252 of the agricultural experiment station of

AMERICAN NURSERYMAN

Michigan State College of Agriculture and Applied Science, East Lansing, Mich., by Stanley Johnston, gives in fifty-two pages much valuable information concerning the blueberry as a commercial crop. It gives in systematic form the history of experimentation with wild blueberries, the choice of sites for commercial blueberry culture with a view to the maximum production, influence of soil moisture, soil texture, heat and cold. The method of propagation found most successful is described, as well as the experiments leading to its discovery. Growth from cuttings and from seedlings is described, and their value compared. The bulletin gives information on the care of wild blueberry crops as well as cultivated ones and is a valuable handbook on all angles of blueberry culture from planting to marketing. It is written in a style that is not too technical for easy reading.

TWO NEW FRUITS PATENTED.

According to Rummeler, Rummeler & Woodworth, Chicago patent lawyers, two plant patents were issued November 20, as follows:

No. 112—Strawberry. George D. Alken, Putney, Vt. A new and distinct variety of so-called everbearing strawberry characterized particularly by its fall crop of berries of large size, by its long-pointed shape and by its superior quality as compared not only with the summer crop, but with other known varieties.

No. 113—Raspberry. Asaph B. Curtis, Sarona, Wis. A hardy light-colored raspberry plant characterized by strong light green canes, free from briars, with light green leaves, able to stand drought well and by a profusion of cream-colored slightly pink berries borne at the ends of stems, the berries having a good flavor and ripening early in the season.

FEEDING PROMOTES HARDINESS.

A system of orchard soil management in which the trees are well supplied with the necessary plant food to maintain good yields and vigorous tree growth is an effective preventive of extensive winter injury, even in such a susceptible variety as the Baldwin apple, declare soil specialists at the New York state experiment station, at Geneva, in a new bulletin now available upon request. The specialists base their conclusions on results obtained in a commercial Baldwin apple orchard in Wayne county, where they have been carrying on experiments with seventeen different fertilizer treatments for the past four years.

In summarizing their observations, the specialists say that those fertilizer treatments which had most affected yields and tree growth throughout the test also gave significantly less winter injury as compared with treatments that had little effect on yields and growth. Fertilizers which supplied nitrogen in nitrate form and available lime seemed best to fortify the trees against winter injury regardless of the fact that they were also the carriers of nitrogen which produced the highest yield and best growth the preceding season.

THE Southern California Nurserymen's Association last week opened an exhibit of rare plants in the Architects' building, Los Angeles, Cal., at the request of the architects. The first group displayed included many new items, including a bronze-colored bougainvillea, developed by Hugh Evans, named Old Gold. Mrs. J. M. Asher, wife of the past president of the association, is in charge of the exhibition.

New Ornamental Deciduous Trees

Subjects Worthy of Use for Specimen and Street Planting to Add Variety Are Described Here by L. C. Chadwick

It is a common belief that there are fewer satisfactory ornamental trees than most other groups of plants. To a certain extent this is true. It is difficult to find trees to equal the oaks, elms and hard maples. They are so satisfactory for specimen and street planting that few, if any, of them will be replaced.

However, most landscape gardeners look for a variety of plants to use in their planting designs to relieve monotony. The following new species and varieties are offered as possible substitutes for the standard types. Some of them will prove just as satisfactory, while others will have a more limited use because of habit of growth or other peculiarities.

Maples.

The following three varieties of maples are included because they are important additions to our limited list of important narrow pyramidal or columnar trees. *Acer rubrum columnare*, *Acer saccharum monumentale*, the sentry maple, and *Acer saccharum pyramidale* are all much the same in habit of growth. The best one is probably the sentry maple. Specimens forty to forty-five feet in height are not more than eight or ten feet wide at the base. *Acer rubrum columnare* is somewhat broader, as 50-foot specimens may be twelve to fifteen feet wide at the base. Little is known about *Acer saccharum pyramidale*, but it is possible that it is even narrower than the sentry maple. One specimen that was eighteen to twenty feet high was not more than two and one-half feet wide at the lower branches. A substitution of these maples for the commoner upright poplars is recommended.

Hardy Rubber.

Too little information is available on *Eucommia ulmoides*, or hardy rubber tree, to state its true ornamental value. A slow-growing tree of medium size, it is somewhat narrow in form, with leaves resembling those of the elm or hackberry. Apparently resistant to pests, it is of considerable promise as a specimen tree.

Hackberry.

One of the smaller hackberries, *Celtis Bungeana*, was mentioned in the last article. Two other species of somewhat larger size are *Celtis jessoensis* and *Celtis mississippiensis*, the sugarberry. The former is a tree growing to seventy-five feet in height, with clean dark green foliage and attractive gray bark. It is a native of Korea and Japan. The sugarberry is native from southern Indiana and Illinois south. It is a large tree, reaching ninety feet or more at maturity, with wide-spreading, somewhat pendulous branches covered with light gray bark. The leaves are smaller than those of *Celtis occidentalis*, the common hackberry, and are almost entire. One of the most serious objections to the common hackberry is that it is seriously troubled with witches'-broom. The sugar-

berry seems much more resistant to this pest. One large specimen on the campus at Ohio State University, Columbus, O., is entirely free from it, while a near-by hackberry has been seriously attacked. Since *Celtis* trees are highly tolerant of city conditions, they should be used more extensively. *Celtis mississippiensis* should make a good street tree.

Maidenhair Tree.

Few trees possess such outstanding ornamental characters as *Ginkgo biloba*, the maidenhair tree. The unique fan-shaped leaves are entirely free from pests. Occasionally sparsely branched if not properly managed, the plant grows to a height of 100 feet or more at maturity. It is usually considered to be slow-growing, but this statement is not entirely true. If good soil conditions are given the trees, the growth rate is satisfactory. One has only to observe the planting of ginkgos in Schenley park, Pittsburgh, as avenue trees to note the satisfactory growth habit. The ginkgo is indifferent to soil conditions and transplants readily. Doing well in congested city districts, it makes an excellent street, lawn or park tree.

The narrow upright form, *Ginkgo biloba fastigiata*, makes an excellent specimen for small areas or for screen purposes where a narrow tree is necessary. Since the fruits have a disagreeable odor, only male trees should be used. Plants may be readily propagated by softwood cuttings taken the latter part of June or early in July.

Hemiptelea Davidii.

The hemiptelea is a small shrubby tree belonging to the elm family. The leaves are small, somewhat like those of the Chinese elm, and dark green in color. The plant is densely branched and should make a good hedge plant or a high screen. Little is known about its cultural requirements except that it seems to be doing well on a fairly heavy clay-loam soil at Columbus, O., and is perfectly hardy.

Maackia.

As interesting small flowering trees, the maackia species are of some value. They belong to the leguminosae and bear slightly fragrant, pea-like flowers in July. *Maackia amurensis* is a small tree hardly exceeding twenty to twenty-five feet. *Maackia chinensis* is somewhat larger and may reach seventy feet or more at maturity. These trees may be considered good companions of the yellowwood, *Cladrastis lutea*.

Phellodendron.

It is fortunate that the corktrees have come more into prominence during the past few years. Possessing a rounded form, good green foliage and resistance to pests, the phellodendrons should be used extensively. Two of the species, *Phellodendron amurense*, the Amur corktree, and *Phellodendron sachalinense*, the Sakhalin corktree, attain a height of about fifty feet at maturity. The latter is probably the most satis-

factory species. *Phellodendron chinense*, the Chinese corktree, is somewhat smaller, attaining a height of about thirty feet. No difficulty is experienced in growing grass beneath the corktrees, since they cast a light shade. Slow in growth, they make suitable specimens for small and average-size lawns. Doing well in dry soil and resistant to smoke injury, they make favorable street trees for city planting. The small, yellowish green flowers are not especially attractive, but the black fruits, persisting well after the leaves fall, add an interesting note.

Golden Larch.

Even though *Pseudolarix amabilis*, the golden larch, belongs to the pine family, it is nevertheless deciduous, as is the better known larch, *larix*. A large pyramidal tree with soft, light green foliage turning bright yellow in the fall, the golden larch is highly attractive. It prefers an acid soil and seems to do best in light, sandy soils and sunny locations. It is a pleasing specimen plant.

Sophora Japonica.

Because the Chinese scholartree, *Sophora japonica*, flowers sparsely in small sizes and is slow of growth, it does not find so ready sale as it would otherwise. Nevertheless, it has many desirable characteristics. It does well in most soil types and is fairly tolerant of drought. The wide-spreading branches and small leaflets cast a light shade, which makes it possible to grow grass readily beneath it. Tolerating city conditions, it is suitable for an avenue tree as well as for a lawn specimen. It is little troubled with insects and diseases. The white, spreading clusters of flowers in August are attractive.

Mountain Ash.

As a variation from the American and European mountain ash, one may use a variety of the European species, *Sorbus Aucuparia edulis* or *Sorbus alnifolia*. The variety *edulis* differs from the type by having larger leaves and fruits. The fruits especially are attractive. *Sorbus alnifolia* is a larger tree than the European species, reaching fifty feet or more at maturity. The branches are wide-spreading, forming a round-topped head. The bright green leaves are about twice the size of those of *Sorbus Aucuparia*. The fruits are red and yellow, of the usual size.

Tilia Euchlora.

With a glossy dark green roundish leaf, in size midway between that of the American linden, *Tilia americana*, and the little-leaf European linden, *Tilia cordata*, the Crimean linden is certainly one of the most beautiful of them all. Of smaller size than most of the species of this genus, it has a pleasing habit of growth which makes it adaptable for small lawn planting.

Zelkova Serrata.

Zelkova serrata, the sawleaf zelkova, has been mentioned as a possible substi-



Garden Surrounding Top o' the Town House on Roof at San Francisco.

tute for the elm in areas where the Dutch elm disease is troublesome. It has, however, been found susceptible to the disease and certainly cannot approach the American elm in form and grace. A large tree at maturity, it grows rather narrow and upright, frequently with a number of large branches near the base of the trunk. The growth habit of this plant leads me to believe that it could be used as a high hedge or as a screen.

GARDEN FOR ROOF HOUSE.

Wall Background Painted.

When O'Connor Moffett & Co., San Francisco, Cal., finished a beautiful model house on their roof, it was apparent that to make it complete an attractive garden setting must be provided. And for this Walter A. Hoff, of the West Coast Nursery Co., Palo Alto, was called in.

In making plans Mr. Hoff had to consider all the problems usually encountered by the landscape gardener in designing a setting for a penthouse, plus the difficulties of a tall wall background. And since this was a model house it must be a model garden. Some idea of the success of the planting made may be seen in the accompanying illustrations.

The plot leading to the front of the house is bordered with shrubbery and low plants. On the opposite side of the house a sundial faces the steps leading from French doors from both the living room and dining room. A rock garden is set in the circular platform surrounding the dial.

The walls about the garden space were first painted with a scenic sky line and directly in front was placed a woven fence of redwood and then the shrubbery. Mr. Hoff has planned the garden so that there will be an interesting variety of colors during the entire year and every effort has been made to have plants blend together in artistic effects. He also has shown how a wider variety of plants than usual may be worked together.

Down Front Path.

Down the front path are potted evergreens, variegated white and green ivy, *Cotoneaster horizontalis*, *Pittosporum*

undulatum, *Pittosporum Tobira variegata* and *calceolarias*. On the porch are *Thuja orientalis aurea nana*, begonias and an excellent specimen of *Buxus sempervirens*.

In the garden are *Juniperus chinensis procumbens*, *Ulmus parvifolia*, *Thuja Rosedale*, *crataegus*, ivy, *Pittosporum undulatum*, an olive tree, pomegranate, wisteria, *heliotrope*, English yew, *Juniperus bermudiana*, *Coprosma Baueri alba variegata*, *Retinispora Stewartii*, *lyonothamnus*, *Sorbus Aucuparia*, *Mahonia japonica*, *Acer palmatum*, *Thuja orientalis beverleyensis*, flowering crab apple, *aucuba* and dwarf maple in the order named.

Continuing around the garden are mountain ash, fuchsia, *Cedrus atlantica glauca*, *crataegus*, *Retinispora obtusa aurea*, *Nandina domestica*, *Picea pungens*, *Myrtus communis variegata*, *Jasminum grandiflorum*, *Juniperus libertonis*, *Pyracantha yunnanensis*, standard *Pittosporum Tobira*, *Juniperus Pfitzeriana*, *Taxus baccata*, *Chamaecyparis Lawsoniana Alumii*, *Thujopsis dolabrata*, *lasianandra*, *Cotoneaster pannosa*, *Pinus Mughus*, *Veronica pimeleoides*, *Eugenia myrtifolia*, *Evonymus japonica aureo-marginata*, oak, *Wisslii cypress*, *Polygala Dalmaisiana* and weeping giant sequoia. Every plant is labeled. Although created for a house eight sto-

ries above the street, the garden is just as applicable for a garden built under normal conditions.

PLAN UNIQUE DUTCH SHOW.

In Holland, March 15 to May 19.

Every ten years the flower and bulb growers of Holland organize an international exposition to demonstrate the advance achieved in their industry which lends Holland so much color and for which this country is so widely known. In 1935 this show will be held at Heemstede, a little village near Haarlem, March 15 to May 19. Part of the beautiful Groenendaal park, a famous old country estate, will serve as the exposition grounds. No efforts will be spared in order to demonstrate the use of spring flowers and shrubbery. Mass planting of bulbs is planned for the main show and millions of flowers will grace the lawn divided by foot paths and hundreds of beds and borders of flowers. Summer cottages, old Dutch gardens, rockeries, heather gardens, informal plantings and flower borders along lakes, adjacent to a wooded section, will greet the spectator.

The flower hall, which will be filled every ten days with fresh specimens, will serve to show in perfection the forced flowers and shrubbery. Gardens and decorative groups of the rarest kind will be shown. At night this hall, with the formal gardens of twelve acres spreading out like a colorful tapestry, will be lighted by illuminated fountains and lighted pillars, making it a fairy-land.

Celebrate Export Industry.

At the same time the tercentenary of the regular flower bulb export industry of Holland will be celebrated. The interesting history of Dutch bulb cultivation will be shown in the famous Frans Hals museum of Haarlem, which in itself is visited every year by numerous tourists for its interesting medieval architecture and its unique collection of the masterpieces of Frans Hals and his contemporaries.

One will be able to trace the voyage of the tulip from Persia to Turkey and from there to Hungary and Vienna and later to western Europe, from records of



Top o' the Town House and Garden on Department Store Roof.

Convention Time!

During the next two months, no less than twenty-four annual meetings or conventions of nurserymen's associations will be held. The reports of these gatherings in *The American Nurseryman* will be read thoroughly, not only for their local interest, but because the trade the country over is keenly interested in the current developments in such important matters as marketing agreements, prices, supplies of planting stock, sales volume, current trade practices, government projects for roadside planting, etc., etc.

The coming issues of *The American Nurseryman* will, therefore, be of great importance, and advertisements of suitable stock, supplies and equipment will have close attention. Issues of special value will be those of January 1 and 15 and February 1 and 15. Forms close five days before the date of issue.

DISPLAY ADVERTISING RATES

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Full page	\$50.00	\$47.50	\$45.00
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AMERICAN NURSERYMAN

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the fifteenth and sixteenth centuries. One will find the oldest literature and prints showing the tulip after its introduction into western Europe. Public collections, as well as those of private persons, have been widely drawn upon to obtain a unique selection of caricatures and pamphlets published during the "tulip craze," as well as some beautiful illustrated rate books, colorful pictures of the flowers and paintings of classified gardens.

Cut Flower Industry.

The exposition is not only sponsored by the Dutch bulb growers. Two other centers of the Dutch flower industry are represented, which are almost equally important and interesting, although not nearly so well known. Aalsmeer is the center of the cut flower industry. It has more than 5,000 acres of greenhouses and millions of flowers are brought daily to the large and extremely modern auction hall from where they are transported the same day by airplane to all countries of Europe. Even though this industry is now highly efficient and modernized, it has lost none of its colorfulness, and those who are interested in flowers will enjoy watching the procession of little boats which bring the lilies, cyclamens, roses and seed flowers from the nurseries to the auction hall. The other big center is Boskoop, which is especially well known for its fantastically shaped shrubbery which lends the Dutch garden its particular charm.

Arrangements have been made so that tourists can visit these various centers under expert guides. It will also be possible to visit a number of modern

and old gardens on private estates in various parts of Holland, which as a rule are closed to the public. In addition to these features, which should appeal particularly to those who are interested in gardens and flowers, ample occasion is also provided to visit the various cities, museums and countrysides, which no one would wish to miss who visits the Low Countries.

Extension trips to Belgium, France and England (affording a good opportunity to visit the Chelsea flower exhibits) will also be available at a time of the year when these countries are most beautiful and when travel is light.

SUSCEPTIBLE BARBERIES.

The susceptibility of some barberries to the black stem rust of grains brings a reminder from S. B. Fracker, in charge of plant disease control in the bureau of entomology of the United States Department of Agriculture, in connection with the article on "Berried Shrubs" by W. N. Craig in the November 1 issue of *The American Nurseryman*.

Of the species mentioned, *Berberis vulgaris* and *B. Vernae* are susceptible to attack of black stem rust and may not be shipped into or between the protected states. *B. Thunbergii*, *B. triacanthophora*, *B. verruculosa* and *B. Thunbergii atropurpurea* are considered resistant and are not affected by the quarantine.

A complete list of the susceptible and nonsusceptible varieties is given in circular PQCA-320 (second revision) of the United States Department of Agriculture, along with a list of the states affected by the quarantine regulations.

TREES FOR STAGE SHOW.

Junipers up to thirty feet tall were recently supplied for the stage setting of Max Reinhardt's popular presentation of Shakespeare's play "A Midsummer Night's Dream," by W. A. Toole, of Garry-nee-Dule, Baraboo, Wis. Five truck loads of evergreens were furnished for the performances given in Chicago and Milwaukee, Wis.

MELROSE FIRM CHANGES.

Howard P. Shaw has recently assumed sole ownership of the retail nursery business formerly conducted as A. M. Tuttle & Co. and has changed the name to Melrose Nurseries. Mr. Shaw was a partner in the firm for the past fifteen years with Mr. Tuttle who has retired from business after forty years of activity as a nurseryman. The Melrose Nurseries are located at Melrose, Mass. They comprise about ten acres, the principal business being landscape planting, done mostly within a 10-mile radius of Boston.

ARKANSAS CONDITIONS.

A complete sell out of fruit trees, notwithstanding the poor money situation, is expected by Dr. W. M. Moberly, of Bentonville Wholesale Nurseries, Bentonville, Ark. He states that the shortage of trees is due to the drought. General conditions are not much improved, and not much is heard in that section now about trade agreements. The Arkansas nurserymen are not interested in the agreements offered so far, according to Dr. Moberly.

The Current Season

W. N. Craig's Notes from New England

AN OPEN AUTUMN.

There has rarely been more pleasant and open weather during November and early December than has been our lot this year. October was unusually cold, averaging 5 degrees daily below normal, but November largely made this up by an average of 3.75 degrees above normal, which the first week in December fully maintained. Following this, came a period of real winter weather with readings running as low as zero, in the nature of a reminder that the usual prophecies of weatherwise seers are worth just as much as usual. A year ago they promised us conditions suggestive of Florida, but in the east they more nearly resembled those of Labrador.

No matter what the winter may be which we are just about to enter, we have had ample opportunities to prepare for it, for rarely could planting of trees, shrubs, perennials and bulbs be continued without check so late. We had time to do much changing, cleaning up and general improvement work, all of which will stand us in good stead in the spring. After December 8 the decided drop in temperature made growers hurry their winter mulchings, especially of perennials. A dry November helped to check the exuberant growths that many plants had made in the cloudy and rainy September and early October. With the ground sealed tight, there was no excuse for further delay in applying mulches. Were we sure of a snow blanket which would stay with us until well along in March, there would be little need of winter coverings of any kind.

LATE BLOOMS.

Never before did we have such an interesting variety of flowers blooming in the open during early December. In the way of woody plants, *Daphne Cneorum* carried scattering flowers. *Forsythia intermedia spectabilis* had numerous flowers open and, as usual, *Spiraea Thunbergii* bloomed fairly freely. *Hamamelis mollis*, the Chinese witch-hazel, was attractive in November.

In December there were flowers open on the deciduous *Jasminum nudiflorum*. In New England we do not see much of this interesting climber, which in the average winter flowers well in late February. The severe winter of 1933-34 cut our plants down to the snow line, and there was not much bloom until late March. Given a southern or southwestern exposure against a house, this jasmine furnishes a grateful touch of yellow coloring a month or more ahead of even the early-flowering *Forsythia ovata*. Sprays cut in winter will open in the same way as *forsythia*.

While most of our berried shrubs carried full crops this season, there were some exceptions. *Callicarpas* had fewer fruits than usual. The native black alder, or deciduous holly (*Ilex verticillata*) had hardly any fruit in this section, although farther north, probably due to deeper snows, berries were never more abundant.

The viola family was colorful until low temperatures on December 8 put an end to it. Royal Gem, with flowers over

thrice the size of Jersey Gem, blooms more heavily than any other variety late in the fall. Even the lovely and immensely popular English variety, Maggie Mott, flowered quite late. As this variety becomes more acclimatized and better known, its popularity will spread. While the violas generally succeed best in full sunshine, I have found that Maggie Mott blooms better with a little shade. The various violas, placed in flats, cut back hard and given a temperature of 45 to 50 degrees at night will soon furnish a crop of fine succulent cuttings.

OUTLOOK FOR SPRING.

Everyone is wondering how business is going to be next spring. One guess is probably as good as another, and the writer looks for an increase of fifteen to twenty per cent over sales of last year. Possibly the mortalities of the severe winter materially helped sales of many varieties last spring, but the losses nurserymen themselves had were large. If the coming winter is again severe and losses are heavy, some amateurs will become so discouraged that they will buy less, but a far greater number, who have now become thoroughly imbued with gardening enthusiasm, will come up smiling, and to their ranks will be added many more that the depression has turned to gardening, from which they are, on their own admission, getting more fun than they ever had before. The tremendous increase in the number of flower shows under the auspices of garden clubs, women's clubs, civic organizations and schools is striking evidence of the steadily growing interest in things horticultural. It is up to those in the trade to keep these people interested by growing things that they want rather than what we may happen to like ourselves. Carry the good old varieties by all means, but leaven your list with new additions. All of them may not live up to the descriptions, but some are sure to prove valuable. If you fail to do this, buyers will gradually pass you by.

The almost invariable question interested amateurs ask each spring is "What have you got that is new?" We all want to be able to offer them some plants which will appeal to them. Even though blue, pink, lavender and yellow may be their favorite colors, and they may tell you that they do not want anything red in their gardens, you can usually sell them plants of this color by using a little diplomacy and pointing out to them how necessary red is, especially in spring and fall. Publicity is the life of any business, and anyone failing to use printers' ink intelligently will either stand still or fall by the wayside. As to prices, that is a big question to be taken up in another issue.

CHRISTMAS ROSES.

The Christmas roses are gradually coming back into commerce; before quarantine 37 they could be imported in any number. They are slow of increase

from seeds and division, as would-be raisers of them have found out. Many of the seeds sold are too aged, and even when they are fresh, several years elapse before salable plants are ready.

Helleborus niger altifolius is the first to bloom; flowers on this variety were open in October, although the main crop will not come until late February and March. *H. niger praecox* is later in blooming, and the leaves are more prostrate. *H. orientalis*, the Lenten rose, does not open its purplish pink flowers until spring; it is a much more rampant-grower than *niger*.

H. viridis, the seeds of which are often sold for *niger*, is an upright grower with a woody stem. This is strictly evergreen, and the foliage is quite striking and suggests some of the evergreen aralias, being, however, much more divided than *A. Sieboldii*, which is sometimes used as a decorative foliage plant in pots or tubs. *H. viridis* last winter withstood 20 below zero without any protection whatever and opened its large, striking, branched heads of flowers in late winter. At the time of writing buds are quite sizable, and a few warm days would open some of them. *H. corsicus* I have tried; it grows like *viridis*, but did not prove hardy.

Helleborus niger does remarkably well on many estates in New England; big clumps, carrying scores of spikes, are seen on the larger ones. Many persons grow these in coldframes, keeping sash over the plants during the blooming season. This insures pure white flowers.

The hellebores enjoy some shade. When in England in the summer of 1933, I noticed that Carl Engelmann in Essex, one of Britain's largest and most successful cut flower growers, had quantities of them growing in rather thin woodland where the underbrush was kept down. There they seemed to relish the same conditions as such useful hardy primulas as *japonica*, *Bulleyana*, *pulverulenta* and *Beesiana*, all of which are used by him for cutting, in addition to the giant forms of *Polyantha* in blue, white and yellow.

PRIMROSES.

Our climate is too hot and dry to suit primulas, which are such glorious spring and summer flowers abroad. Even here, though, on some estates we can find primrose paths that are doing extremely well, especially the *Polyantha* types. Also in moist locations with some shade, *pulverulenta*, *japonica*, *Red Hugh* and some others are much at home. That there is a great and growing interest in them goes

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without saying, and there is no good reason why the trade here should not feature them more. With really fresh seeds, there is little trouble in germinating a large number of the most showy varieties in a few weeks. Winter is the best time to sow seeds and get a fine germination. Some varieties will germinate from seeds 2 to 3 years old; most must be less than a year old. In the case of the true English primrose, which many fail to germinate, if fresh seeds are sown the seedlings will come up thickly within a month. If the seeds are kept another season they may lie dormant for a year. The summers are hard on primulas in the open unless they have some shade and can be watered in dry weather. In coldframes under lath screens they will do splendidly.

There are hundreds of varieties of primulas, including numerous fine hybrids; some little gems like farinosa, Juliae and its hybrids, frondosa and others are only three to four inches high, while I have seen that lusty giant Florindae growing four to five feet high in ditches or bogs and smothered with its numerous nodding umbels of yellow flowers, which open in late July. One of the most striking of the whole family, which is also a late bloomer and much seen abroad, is Littoniana, with strange and striking grape hyacinth-like heads of flowers, which are crimson in the bud, but purple when fully open. This variety grows eighteen inches high and is a native of Yunnan, but does not adapt itself kindly to our climate; it also is a late bloomer. In the dwarf section the pretty blue Juliae and its hybrids, known as Juliana hybrids, are coming to the fore; they are good doers, easily increased by division and splendid either in pots or in the rock garden. Among these, Wanda is probably the best known and of easiest culture; its color is bluish purple. Pam is very dwarf and neat, with rich maroon flowers. Jewel is an intense magenta, and Gloria is magenta crimson.

For a beginner with hardy primulas I should suggest these varieties as easy to grow from seeds: Beesiana, Bulleyana, denticulata and its variety cachemiriana, japonica pulverulenta, Polyantha in giant blue, yellow and white colors; acaulis (English primrose), Aileen Aroon, burmanica and Auricula. The last-named likes lime; it is an old favorite and many fine named varieties of it have been raised. It winters fine in well drained ground in New England. The charming double forms of P. acaulis are only to be had by division and will never be abundant or cheap.

If primulas are sown in January, many will bloom the following fall and can be marked, if of an especially fine color, to be increased by division. Hardy primulas are excellent sellers in spring, especially when they can be offered with one or two flowers. Showing the great interest in these flowers abroad, the catalogue of one noted foreign rock plant specialist has 152 varieties. Last year I visited his nursery, where a special piece of woodland, with high beech and oak trees, provided an ideal location for them. There plants were much at home even in a phenomenally dry season.

The Central California Nurserymen's Association held its monthly meeting December 11 at Berkeley.

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LABELS FOR NURSERYMEN THE BENJAMIN CHASE COMPANY DERRY, N. H.

AID MINNESOTA NURSERYMEN.

The office of the state entomologist of the Minnesota division of insect control and nursery and apiary inspection is splendidly fulfilling its promise to help the state nurserymen. The division does not wish the nurserymen to envision its officers as being merely inspectors, and so along with other data, interesting notes have been sent to nurserymen regarding the mulching or winter coverage of perennials. The suggestion is made that instead of the nurseryman's having a set date for applying the mulch, he watch the weather forecasts and keep sufficient cover in readiness so that it can be put on in a hurry. The storage of strawberry plants and other perennials is also referred to.

Even in gravelly soils in Minnesota pear trees did well and they appear to be drought-resistant. Almost uniformly good was the showing that pear trees

made and the crop was average or a little better, even in one of the hardest drought years in the history of the state.

An especially valuable note is made by the department regarding storage of stock by dealers and the condition of such stock at the time of selling. During one inspection it was found that, except for the stock which was expected to be disposed of that day, the material was kept in a basement having a dirt floor. The room was cool and the moisture conditions were perfect, as evidenced by the trees and shrubs, which were, after four weeks, in almost the same condition as when they left the nursery.

The Millane Nurseries & Tree Experts, Cromwell, Conn., have gained a contract for tree surgery work at several public squares at Washington, D. C., the work to begin immediately. The money is supplied by the P. W. A.

Herbaceous Perennials

C. W. Wood Comments on Less Common Varieties of Hardy Plants Deserving Attention

GLOBULARIAS.

Small Genus in a Small Family.

Globularia is a small genus in a small family, practically all of the members being confined to the Mediterranean region. Notwithstanding their proximity to the centuries-old civilization of Europe, some of them remain rarities in Old World gardens and all but two or three species are unknown in American trade. No adequate reason comes to mind to explain this scarcity in American nurseries. They are not new and, with a few exceptions, they are not rare plants in nature. One is forced to the conclusion, then, that we are still in the stage of horticultural development where mere showiness is placed above all other considerations. And the demure globularias would inevitably suffer in the presence of all of the spectacular plants which are now in vogue. They do, however, possess about every other garden virtue and will eventually come into their own.

The best of the lot and one of the loveliest mat makers in my garden is *Globularia bellidifolia*. There seems to be a wide difference between botanists and horticulturists in the use of this specific name, "The Standard Cyclopedia of Horticulture" saying that it is the same as *G. spinosa* and describing the latter as a foot-high plant. Actually the plant bearing the name *bellidifolia* among European gardeners is never over two inches high and spreads into a mat as much as a foot across, while *G. spinosa*, according to material coming from Europe's most careful growers, is little more than a small edition of *G. trichosantha*, with a height of six inches, while the latter gets up to a foot. Evidently *G. bellidifolia*, as I have had it from two or three European sources, is a rare plant even there, for one correspondent says that few examples of it are found in gardens. That it is rare in America is evident from the fact that no catalogue in my files lists the plant. This is not as it should be or as it would be if gardeners knew that it possesses about every good point that a perfect garden ornament is supposed to have. I grow it on a sunny southern slope where it can display its glossy green mats throughout the year and its liberal sprinkling of lavender balls during June. The plant, as I have it, is never over two inches in height even when in flower. It gives no trouble at all under our conditions except that the foliage is sometimes winterkilled if it hangs over a bare rock, something that never happens if the branches have soil underneath them and they are in a position that is protected from bitter winds. This should not be taken as meaning that the plant is tender to cold, for it is normally hardy and is grown here under open field culture.

G. Nana.

Globularia nana is just a little less desirable than *G. bellidifolia*, according to my views, mostly because its mats lack some of the luster of the other,

though many would place it first, owing to its smaller size and more restrained growth. This is the smallest of the family, so far as I have been able to determine. *G. pygmaea* is mentioned in garden literature as being a still smaller form of *nana*, but it seems to exist only on the printed page, for everything that I have under that name is indistinguishable from type *nana*. The latter makes conservative mats, never getting wider than five or six inches across here, and upon them rest tiny gray blue balls during June, the entire plant not much over an inch high. It, too, thrives under typical globularia treatment of a well drained soil in full sun.

Considering garden value, *G. cordifolia* is the next on the list of globularias that I have grown. The plant, as I have it, makes evergreen mats, supporting fluffy, violet blue heads on 2 to 4-inch stems. There is confusion here, too, for my plants have their leaves more obovate than wedge-shaped, as specified by Bailey. Close to *cordifolia* in garden value, except that it blooms so sparingly and often not at all, is *G. stygia*. When any of the other three forms are available, the gardener may omit *stygia* without regrets.

G. incanescens will have to be passed over without definite praise or condemnation, because I am quite sure that I never have had the true plant. It is spoken of in literature as having egg-shaped leaves and deep blue flowers on inch-high stems. It is said to bloom freely and to be a valuable garden ornament. My plants under that name got four inches high and had a decided violet cast in the flower.

G. Trichosantha.

Of the taller-growing kinds, the popular *G. trichosantha* is probably of greatest value. It needs no comment here, except to say that much of the material passing under that name is really *G. vulgaris* in some cases and *G. nudicaulis* in others. The naming of globularias is in a frightful state of disorder and particularly so among the tall-growing varieties. "The Standard Cyclopedia of Horticulture" gives *G. vulgaris* and *G. nudicaulis* as synonymous. And that may be correct for all I know to the contrary, but material in the trade is distinctly different, the former being about a foot high, with the radical leaves usually notched at the apex and the stem leaves lanceolate, while *nudicaulis* is six to eight inches in height and the leaves usually end in a short, abrupt tip. The flower color of *vulgaris* is gray blue, while that of *nudicaulis* approaches lilac. All of these taller-growing kinds have garden merit, probably in the order named, though none of them ever excited me to a high point of interest. All globularias are easily grown from seeds. The mat makers may be grown from cuttings at any time in the growing year, and those of upright growth may be divided. The taller-growing ones need more moisture during the hot, dry days of summer than the mat makers.

ERIGERON LEIOMERUS.

Erigeron leiomerus is an American plant and probably the finest of all alpine erigerons, yet it is practically unknown in American gardens. Let us briefly examine the plant and its behavior in the garden and see what we are missing by letting it remain in the Rocky mountains, where it is native, and in European gardens, where it is beloved by all alpine gardeners. The plant makes a tiny tuft of small, narrow, grayish leaves, which support a succession of large, pale lilac, aster-like flowers for a month or more, beginning usually in early May. And though it is normally a spring bloomer, one need not be surprised to see a bud pushing up any time during the summer and autumn. Contrary, too, to the ways of some beauties, *leiomerus* is not wayward, doing its best for any slight attention given to its well-being. In the middle west, the alpine erigerons seem best when sheltered from the noon sun during summer. That precaution alone would probably make *leiomerus* contented with its garden life, but I always give it a little leaf mold to help hold moisture during dry weather. It may be grown from seeds, and old plants are easily divided. No doubt, too, it could be grown from cuttings.

MENTZELIA DECAPITALA.

If one is looking for something spectacular, one need look no further than this member of the loasaceae found in the plains states from Dakota to Texas. It has other good points aside from its showiness, too, for it behaves admirably under the most trying conditions of dry weather. Not all is beer and skittles, though, for it is not easy to move the plant at any stage of growth, and it acts like a biennial in my garden. Notwithstanding these drawbacks, I can see that the plant would make a good item for the neighborhood grower who had small plants available at the time his large stock was displaying its large (four to five inches across), creamy white, water lily-like flowers. In the garden it should be given a spot sheltered from wind, not that it cannot stand any degree of cold—this is true at least for material from the northern part of its range—but rather that the flower stems are not able to support the great weight of the large number of flowers which are open at the same time. Before the flower stems start to grow, the plant is a rosette of long (up to six inches) wavy-margined, pinatifid leaves from which emerge flowering stems two to three feet high. It blooms over a long period in summer, opening its fragrant flowers about 4 o'clock in the afternoon. It must be grown from seeds, which should be planted in an outdoor frame in late fall.

SEVENTIETH ANNIVERSARY.

The California Nursery Co., Niles, Cal., has begun the celebration of the seventieth anniversary of its founding by giving visitors to the main headquarters and branches of the company souvenir copies of the "seventieth anniversary edition garden book," according to George C. Roeding, Jr. The company was founded near San Jose in 1865 by John Rock and now operates sales branches at Niles, Sacramento, Loomis, Modesto and Fresno.

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EFFECTS OF DROUGHT.

The Missouri Botanical Garden bulletin for November gives valuable information on the effect of the heat and drought on plants and trees cultivated at the garden and arboretum. While it is still too early to know the ultimate effect, the influence has been noted in many cases. Nearly all of this year's seedlings were killed, but, by shading and watering, most of the older seedlings were carried through without apparent injury. The intense heat, as much as the drought, was responsible for the loss. According to arboretum records, there were only four days between June 14 and August 14 when the thermometer did not reach 100 degrees. The losses ran high in the conifers, the thuyas, *Taxus cuspidata* and several varieties of spruce being killed or seriously burned. The white pine was the only pine to suffer seriously. *Juniperus chinensis procumbens* was killed, and some large specimens of *J. virginiana columnaris*.

Loss among deciduous trees and shrubs was not so great. The leaves of magnolias, flowering dogwoods, *Prunus virginiana*, *Acer ginnala* and *A. japonicum*, *Sorbus Aucuparia* in part, *Syringa villosa*, varieties of *diervilla*, *Corylus rostrata*, *Symphoricarpos occidentalis* and *Syringa amurensis* were badly burned. Azaleas and rhododendrons came through all right in the nursery, where they could be watered, but suffered severely in the open. The only serious loss of native trees seemed to be in the case of individual specimens growing in shallow soil in rocky situations.

It is interesting to note that the garden finds native trees much more adaptable to drought conditions than the Asiatic trees recently introduced for dry situations. Only the ginkgo and sophora, if of large size, stood the conditions without collapsing.

It is thought that peonies and irises will show little damage, since after the middle of August growing conditions were good. However, this will not be known certainly until next spring.

CATALOGUES RECEIVED.

Babylon Dahlia Gardens, Babylon, N. Y.—Retail price list of dahlia clumps for early winter delivery, arranged alphabetically according to types.

Harrold's Pansy Gardens & Greenhouses, Grants Pass, Ore.—A special offering of reasonable items, including pansy plants, delphinium plants, perennials, seeds of flower novelties, rooted cuttings, etc. Mention is made of a special counter sales pack for pansy plants.

DeGiorgi Bros. Co., Council Bluffs, Ia.—Special offers of novelties and specialties for flower and vegetable growers. In flowers, annuals and perennials are represented, including many unusual subjects for growing as pot plants. A list of pentstemons is noteworthy. Data on cultural practices also make the catalogue worthy of perusal.

Suhr's Flower Farms, Troutdale, Ore.—A comprehensive listing of rock plants is the feature of the current catalogue of this firm, which recently bought the entire collection of such plants from a large grower. Many rarities are offered, especially good selections appearing for campanulas, hypericums, pentstemons, potentillas and primulas. Seeds of many items are also listed. In addition, there are offers of bedding plants, evergreens, flowering shrubs, water lilies, gladioli, dailies, etc. The firm grows roses for both the wholesale and retail trade. A new display rock garden was recently acquired by the firm.

Glen St. Mary Nurseries Co., Glen St. Mary, Fla.—Wholesale listing of nursery items, featuring especially materials for the south. Shrub and hedge plants occupy the largest section, although first place is given to azaleas, a major specialty of the firm. Australian roses, palms and cycads, vines, shade trees, evergreens, fruit and nut trees and bulbs and related plants are other groups represented. The stock is said to be above average this season. It is also stated that with a demand that is considerably stronger than in several seasons past, shortages in a number of items are likely to develop.

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Answers to Inquiries

EVERBEARING STRAWBERRIES.

Kindly advise me what are the best everbearing strawberries at present.

A. L. S.—Wis.

According to circular 268 issued by the extension department of the University of Wisconsin, Madison, entitled "Strawberry Culture in Wisconsin," the everbearing strawberry in most cases has proved not to be a satisfactory commercial fruit under Wisconsin conditions.

Mastodon is the most highly recommended and most extensively planted everbearing variety at present. Some growers still prefer Progressive, or Champion, claiming better quality for it, it is stated in the bulletin. Champion, however, will not produce so many spring berries as Mastodon.

For additional information on strawberry culture, the state publication mentioned should be referred to. The author is James G. Moore.

PROPAGATING THE LACE VINE.

Will you kindly send me information regarding the propagation of the silver lace vine?

W. H. T.—Colo.

Polygonum Aubertii, the silver lace vine, can be propagated in a number of ways. The method used by the large nurseries in the vicinity of Painesville, O., where this plant has been propagated in large numbers during the past few years, is to take softwood cuttings during the summertime. Judging from some of the material received in the Chicago area in the spring, cuttings are also taken quite late in the summer and the rooted material potted up and carried over winter in coldframes in 2½ and 3-inch pots.

This plant can also be propagated from seeds and by division in the spring. The writer has also had success in rooting hardwood cuttings made from the canes cut back at planting time in the spring. These cuttings were merely placed in the ground at that time without any particular attention. They rooted and started to make top growth, but succumbed to the severe drought of the past summer. However, this suggests to the writer that this plant might readily be propagated in the same way as the grape, privet, etc., being sure to use well matured wood.

EUROPEAN ELM SCALE CONTROL.

Will you give the treatment for the European bark louse on elm trees? These trees are badly infested with a gray louse; it completely covers the bark in places.

C. K.—Mich.

The use of a dormant miscible or lubricating oil spray seems to afford the best control of the European elm scale, also known as bark louse, on elm trees.

The use of a miscible oil, one part to fifteen parts of water, applied early in the spring before the foliage appears and at a time when the temperature has been above freezing for a day or two has proved to be the most effective method of control in Wisconsin. Insects are more active at higher temperatures and can

be controlled easier when in that condition than in the semidormant stage induced by cold.

Summer spraying with some of the contact insecticides, such as nicotine sulphate or a derris preparation, may be used in the event the infestation has been discovered too late to permit the use of a dormant spray. If the summer spray is applied the latter part of June or the early part of July as the lice are hatching, these materials used at the rate of one part to 800 parts of water will give sufficient relief to prevent serious injury until it is possible to apply a dormant oil spray.

Excellent results in the control of these pests have also been obtained by washing them from the trees with a fire hose or with water under pressure obtained through the use of a power sprayer.

PEONIES FOR TENNESSEE.

I should like to know the number of peony roots needed to plant an acre, to grow cut flowers for the Mothers' day market. What types and colors are in demand for the occasion? Any other suggestions would be appreciated.

L. M. W.—Tenn.

To plant an acre, use from 3,600 to 4,200 roots. About ten square feet per plant is the least space that can be allowed. The best stock will be 3 to 5-eye divisions of young roots not over 3 years old.

Good shipping and keeping varieties must be selected. Most of the commercial growers of early peonies make use of old varieties, as they have found that the public buys these just about as freely as it does the newer improved types that are more expensive to plant. For white, Queen Victoria is favored. Floral Treasure is grown for pink. Fragrans supplies the dark pink. *Eduis superba*, pink, is used to a small extent. None of these is the equal of the modern varieties in form and color, however.

If it is wished to handle a better class of peonies, those that would doubtless do well in Tennessee would include the following: M. Jules Elie, pink; Sarah Bernhardt, pink; Felix Crousse, red; Fontenelle, early red; President Taft, light pink; Duchesse de Nemours, white, and Frances Willard, white.

The suggestion might be made that if one acre is to be planted the first year, the space be divided half and half between the old stand-bys and the improved varieties and a record be kept of the returns from each. Particularly in case the better varieties are grown, it would be wise to make some advance market contact for the disposal of the blooms. The field is highly competitive.

It is assumed that you are chiefly interested in the growing of cut flowers. If you wish to develop a root business also, the list of recommended varieties would be somewhat different.

OREGON PLAN OPERATING.

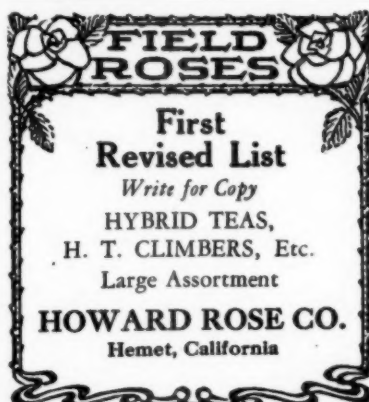
Oregon nurserymen, the second group on the west coast to adopt a systematic plan of marketing nursery stock, have for the past month been operating under

AMERICAN NURSERYMAN

a trade agreement that became effective November 12. The provisions are similar to those in the pioneer Washington plan and were adopted pursuant to like state legislative action. Ralph Johnston is named as administrator of the agreement.

The regulations, including the marketing agreement, state standards for nursery stock and minimum price schedules, are issued in a neatly printed booklet, available to any who wish to study the provisions for the sum of 35 cents.

All kinds of nursery stock are covered by the agreement, including roses, vines, biennials and perennials. Six divisions of the state are provided for, each under one or two directors. Funds for the current administration of the agreement are provided for by an initial assessment of \$2.50 on each nursery, business or sales outlet. Penalties are provided for violators.



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CANTERBURY NURSERIES, Inc., Box A, Easton, Md.

STREAMLINED TOOLS.

A new line of soil cultivating tools being marketed through the nursery trade offers many features of interest. The implements, designed in accordance with natural laws, according to the manufacturer, Gardex, Inc., have forms which offer the least resistance to the soil and require the minimum effort to operate. The same work can be accomplished four to six times faster with these specially designed tools than with the old-fashioned types, it is claimed.

Leaders in the line are the Gardex pull hoe, illustrated here; the Gardex



New Type of Pull Hoe.

hand plow, the Gardex row marker and the Gardex Culticlaw. Neither the hoe nor plow requires the old tiring chopping motion, both being pulled through the soil after the modern tractor principle. The hoe has angular V-shaped cutting blades that bite into the soil to any desired depth, while the hand plow, shaped like a large plow, offers a minimum of resistance to the soil and makes the latter flow right. All the tools are sturdily made, with handles that can be changed easily if broken.

TREE SEED SOWING.

While it makes no attempt to provide a complete discussion on the subject, the current catalogue of Herbst Bros., Inc., contains many valuable cultural suggestions that should be of interest to tree seed planters. Seeds, although viable, it is said, often fail to germinate by reason of improper sowing.

Seeds having a hard skin or shell often remain for a year or even longer dormant in the ground. They may come up during the following season or even two or three years later. To succeed with tree seeds, it is stated, it is im-

perative to keep the seed beds sufficiently moist, but not too wet. Excessive moisture will cause damping off, especially in the case of coniferous seedlings. The seed bed must be of well drained loamy soil, sufficiently sandy to prevent fungus' attacking the seedlings. Shading is necessary, especially for the delicate varieties. The use of a disinfectant is recommended.

Generally speaking, tree seeds do not carry well in warm places; they should be at once placed in cold storage if they cannot be immediately used. Even then, they often will not carry safely from season to season. Many sorts lose their germination power quickly, especially ulmus, cherries, small-fruited prunus, mulberries, eleagnus, etc. These should be kept only in cold storage. More complete data on the subject, it is mentioned, can be obtained from bulletin No. 569 of the New York state agricultural experimental station at Geneva, N. Y., by Dr. H. B. Tuckey, and from bulletin No. 15 of the Boyce-Thompson Institute for Plant Research, Yonkers, N. Y., by Dr. William Crocker.

Springfield, O.—James M. Good, receiver, has filed a petition for authority to sell all the property of the Good & Reese Co. after reporting to the court that it probably cannot be operated profitably. The petition will be heard December 21, at 10 a. m., in the Court of Common Pleas here. The total indebtedness of the company is a little over \$123,000, of which approximately \$24,000 is secured by mortgages on the real estate and buildings.

Rutherford, N. J.—The first meeting of creditors of Lambertus C. Bobbink, trading as Bobbink & Atkins, will be held in the United States District court at Newark, N. J., December 18; at this meeting the debtor proposes to offer terms of extension of his indebtedness. At the same time an application will be made to the court for the confirmation of the extension agreement. Schedules filed show assets as follows: Eleven parcels of real estate appraised at \$642,470 subject to mortgages aggregating \$193,137 and tax liens amounting to \$47,273; nursery stock appraised at \$250,916; accounts receivable after allowances for doubtful accounts, \$43,292, and other assets appraised at \$27,268. Indebtedness is scheduled as follows: Mortgages on real estate, \$193,137; banks and trust companies, \$95,649; and other unsecured claims, \$332,886. The receivers, appointed July 30, last, have filed a report showing the results of their operation of the business up to November 1. The sales increased \$27,588.82, or approximately forty-five per cent, while the expenses decreased \$4,153.60, as compared with the corresponding period last year. The business was done at a good profit, as compared with a loss of about \$27,000 for the same period last year. The receivers believe that if this improvement continues, as they feel there is good reason to expect, it will be possible within the coming year to pay a dividend to the creditors and within a reasonable time to place the business in a position to pay its indebtedness in full. The receivers recommend the continued operation of the business and an extension of the indebtedness to December 1, 1935, and until such later date, if necessary, as shall be agreed upon at another meeting of the creditors on or about December 1, 1935.

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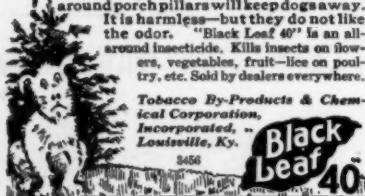
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